



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[EPA-HQ-SFUND-1983-0002; FRL-9936-89-Region 8]

National Oil and Hazardous Substance Pollution Contingency Plan: Partial Deletion of the California Gulch Superfund Site; National Priorities List

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule.

SUMMARY: The U. S. Environmental Protection Agency (EPA) Region 8 is publishing a direct final Notice of Partial Deletion of Operable Unit 1 (OU1) Yak Tunnel/Water Treatment Plant; and Operable Unit 3 (OU3), Denver & Rio Grande Western Railroad Company (D&RGW) Slag Piles/Railroad Easement/Railroad Yard, of the California Gulch Superfund Site (Site), located in Lake County, Colorado, from the National Priorities List (NPL). The NPL, promulgated pursuant to section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, is an appendix of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This direct final partial deletion is being published by EPA with the concurrence of the State of Colorado (State), through the Colorado Department of Public Health and Environment (CDPHE) because EPA has determined that all appropriate response actions at OU1 and OU3 under CERCLA, other than operation, maintenance, and five-year reviews, have been completed. However, this partial deletion does not preclude future actions under Superfund.

DATES: This direct final partial deletion is effective [insert date 60 days after the date of publication in the *Federal Register*] unless EPA receives adverse comments by [insert date 30 days from date of publication in the *Federal Register*]. If adverse comments are received, EPA will publish a timely

withdrawal of the direct final partial deletion in the *Federal Register* informing the public that the partial deletion will not take effect.

ADDRESSES: Submit your comments, identified by Docket ID no. EPA-HQ-SFUND-1983-0002, by one of the following methods:

- <http://www.regulations.gov> . Follow on-line instructions for submitting comments.
- Email: Linda Kiefer, kiefer.linda@epa.gov
- Fax: (303) 312-7151
- Mail: Linda Kiefer, Remedial Project Manager, Environmental Protection Agency, Region 8, Mail Code 8EPR-SR, 1595 Wynkoop Street, Denver, CO 80202-1129
- Hand delivery: Environmental Protection Agency, Region 8, Mail Code 8EPR-SR, 1595 Wynkoop Street, Denver, CO 80202-1129. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information by calling EPA Region 8 at (303) 312-7279.

Instructions: Direct your comments to Docket ID no. EPA-HQ-SFUND-1983-0002. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://www.regulations.gov>, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through <http://www.regulations.gov> or e-mail. The <http://www.regulations.gov> Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through <http://www.regulations.gov>, your e-mail address will be automatically captured and included as part of the comment that is placed in the public

docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the <http://www.regulations.gov> index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available electronically in <http://www.regulations.gov>; by calling EPA Region 8 at (303) 312-7279 and leaving a message; and at the Lake County Public Library, 1115 Harrison Avenue, Leadville, CO 80461, (719) 486-0569, Monday and Wednesday from 10:00 am – 8:00 pm, Tuesday and Thursday from 10:00 am – 5:00 pm, and Friday and Saturday 1:00 pm – 5:00 pm.

FOR FURTHER INFORMATION CONTACT: Linda Kiefer, Remedial Project Manager, U.S. Environmental Protection Agency, Region 8, Mailcode EPR-SR, 1595 Wynkoop Street, Denver, CO 80202-1129, (303) 312-6689, email: kiefer.linda@epa.gov.

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I. Introduction

EPA Region 8 is publishing this direct final Notice of Partial Deletion for all of Operable Unit 1 (OU1), Yak Tunnel/Water Treatment Plant; and Operable Unit 3 (OU3), Denver & Rio Grande Western Railroad Company (D&RGW) Slag Piles/Railroad Easement/Railroad Yard, from the NPL. The NPL constitutes Appendix B of the NCP, 40 CFR part 300, which EPA promulgated pursuant to Section 105 of CERCLA of 1980, as amended. EPA maintains the NPL as the list of sites that appear to present a significant risk to public health, welfare, or the environment. Sites on the NPL may be the subject of remedial actions financed by the Hazardous Substance Superfund (Fund). This partial deletion of the Site is proposed in accordance with 40 CFR 300.425(e) and is consistent with the Notice of Policy Change: Partial Deletion of Sites Listed on the NPL. 60 FR 55466 (November 1, 1995). As described in 300.425(e)(3) of the NCP, a portion of a site deleted from the NPL remains eligible for Fund-financed remedial action if future conditions warrant such actions.

Section II of this document explains the criteria for deleting sites from the NPL. Section III discusses procedures that EPA is using for this action. Section IV discusses OU1, Yak Tunnel/Water Treatment Plant; and OU3, D&RGW Slag Piles/Railroad Easement/Railroad Yard, and demonstrates how they meet the deletion criteria. Section V discusses EPA's action to partially delete the Site parcels from the NPL unless adverse comments are received during the public comment period.

This partial deletion pertains to all of OU1 and OU3. Operable Unit 2 (OU2), Malta Gulch Tailing Impoundments and Lower Malta Gulch Fluvial Tailing; Operable Unit 4 (OU4) Upper California Gulch; Operable Unit 5 (OU5), ASARCO Smelters/Slag/Mill Sites; Operable Unit 7 (OU7), Apache Tailing Impoundment; Operable Unit 8 (OU8), Lower California Gulch; Operable Unit 9 (OU9), Residential Populated Areas; and Operable Unit 10 (OU10), Oregon Gulch, were deleted from the NPL in previous partial deletion actions. Operable Unit 6 (OU6), Starr Ditch/Stray Horse

Gulch/Lower Evans Gulch/Penrose Mine Waste Pile; Operable Unit 11 (OU11), Arkansas River Floodplain; and Operable Unit 12 (OU12), Site-wide Surface and Groundwater Quality, are not being considered for deletion as part of this action and will remain on the NPL.

II. NPL Deletion Criteria

The NCP establishes the criteria that EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425(e), sites may be deleted from the NPL where no further response is appropriate. In making such a determination pursuant to 40 CFR 300.425(e), EPA will consider, in consultation with the State, whether any of the following criteria have been met:

- i. responsible parties or other persons have implemented all appropriate response actions required;
- ii. all appropriate Fund-financed response under CERCLA has been implemented, and no further response action by responsible parties is appropriate; or
- iii. the remedial investigation has shown that the release poses no significant threat to public health or the environment and, therefore, the taking of remedial measures is not appropriate.

Pursuant to CERCLA section 121(c) and the NCP, EPA conducts five-year reviews to ensure the continued protectiveness of remedial actions where hazardous substances, pollutants, or contaminants remain at a site above levels that allow for unlimited use and unrestricted exposure. EPA conducts such five-year reviews even if a site is deleted from the NPL. EPA may initiate further action to ensure continued protectiveness at a deleted site if new information becomes available that indicates it is appropriate. Whenever there is a significant release from a site deleted from the NPL, the deleted site may be restored to the NPL without application of the hazard ranking system.

III. Partial Deletion Procedures

The following procedures apply to the deletion of OU1 and OU3:

- (1) EPA has consulted with the State prior to developing this direct final Notice of Partial Deletion and the Notice of Intent for Partial Deletion co-published in the “Proposed Rules” section of the Federal Register.
- (2) EPA has provided the State 30 working days for review of this notice and the parallel Notice of Intent for Partial Deletion prior to their publication today, and the State, through the CDPHE, has concurred on the partial deletion of OU1 and OU3 of the Site from the NPL.
- (3) Concurrently with the publication of this direct final Notice of Partial Deletion, a notice of the availability of the parallel Notice of Intent for Partial Deletion is being published in a major local newspaper, the Leadville Herald Democrat. The newspaper notice announces the 30-day public comment period concerning the Notice of Intent for Partial Deletion of OU1 and OU3 of the Site from the NPL.
- (4) The EPA placed copies of documents supporting the partial deletion in the deletion docket and made these items available for public inspection and copying at the Site information repositories identified above.
- (5) If adverse comments are received within the 30-day public comment period on this partial deletion action, EPA will publish a timely notice of withdrawal of this direct final Notice of Partial Deletion before its effective date and will prepare a response to comments and continue with the deletion process on the basis of the Notice of Intent for Partial Deletion and the comments already received.

Deletion of a portion of a site from the NPL does not itself create, alter, or revoke any individual's rights or obligations. Deletion of a portion of a site from the NPL does not in any way alter EPA's right to take enforcement actions, as appropriate. The NPL is designed primarily for informational purposes and to assist EPA management. Section 300.425(e)(3) of the NCP states that the deletion of a site from the NPL does not preclude eligibility for further response actions, should future conditions warrant such actions.

IV. Basis for Partial Site Deletion

The following information provides EPA's rationale for deleting OU1 and OU3 of the Site from the NPL.

Site Background and History

The California Gulch Superfund Site, EPA ID No. COD980717938, CERCLIS Site ID 0801478, is located in Lake County, Colorado approximately 100 miles southwest of Denver. The Site was proposed for inclusion on the NPL on December 30, 1982, (47 FR 58476), and listed on September 8, 1983, (48 FR 40658). The Site is in a highly mineralized area of the Colorado Rocky Mountains covering approximately 18 square miles of a watershed that drains along California Gulch to the Arkansas River. The Site includes the City of Leadville, various parts of the Leadville Historic Mining District, Stringtown, and a section of the Arkansas River from the confluence of California Gulch to the confluence of Two-Bit Gulch. Mining, mineral processing, and smelting activities have occurred at the Site for more than 130 years. Mining in the district began in 1860, when placer gold was discovered in California Gulch. As the placer deposits were exhausted, underground mine workings became the principal method for removing gold, silver, lead and zinc ore. As these mines were developed, waste rock was excavated along with the ore and placed near the mine entrances. Ore was crushed and separated into metallic concentrates at mills, with mill tailing generally released into surrounding

streams and after about 1930 slurried into tailing impoundments. Many of the mining operations ceased operations around 1900, although several smelters continued operations into the 1920s (Western Zinc) and the 1960s (AV Smelter) and the last active mine, the Black Cloud, shut down in 1999.

All of the mines within the Site boundaries are presently inactive, and all of the mills and smelters have been demolished. Mining remains that contributed to environmental contamination are 1) mill tailing (the fine-grained residue remaining after milling has removed the metal concentrates from the ore) in impoundments and fluvial deposits; 2) mine waste rock piles (mine development rock and low grade ore removed to gain access to an ore body, and often deposited near adits and shaft openings); 3) mine water drainage tunnels; 4) draining adits; and 5) various smelter wastes including slag piles, flue dust and fallout from stack emissions.

The Site was placed on the NPL due to concerns regarding the impact of acidic and metals laden mine drainage on surface waters leading to California Gulch and the impact of heavy metals loading into the Arkansas River. A Site-wide Phase I Remedial Investigation (Phase I RI), which primarily addressed surface water and groundwater contamination, was issued in January 1987. As a result of the Phase I RI, EPA identified the first operable unit, the Yak Tunnel, to address the largest single source of metallic loading. A number of additional Site-wide studies followed the Phase I RI.

EPA agreed, pursuant to a May 2, 1994 Consent Decree (1994 CD), to divide the Site into 12 operable units (OUs). The OUs are as follows: OU1, Yak Tunnel/Water Treatment Plant; OU2, Malta Gulch Tailing Impoundments and Lower Malta Gulch Fluvial Tailing; OU3, D&RGW Slag Piles/Railroad Easement/Railroad Yard; OU4, Upper California Gulch; OU5, ASARCO Smelter Sites/Slag/Mill Sites; OU6, Starr Ditch/Stray Horse Gulch/Lower Evans Gulch/Penrose Mine Waste Pile; OU7, Apache Tailing Impoundments; OU8, Lower California Gulch; OU9, Residential Populated Areas; OU10, Oregon Gulch; OU11, Arkansas River Valley Floodplain; and OU12, Site-wide Surface

and Groundwater. With the exception of OU12, the OUs pertain to distinct geographical areas corresponding to areas of responsibility for the identified responsible parties and/or to distinct sources of contamination. To date, OU2, OU4, OU5, OU7, OU8, OU9, and OU10 have been partially deleted from the NPL.

The background and history, the Remedial Investigations and Feasibility Studies (RI/FS), Removal and Response Actions, Selected Remedies, Cleanup Standards, and Operation and Maintenance activities for OU1 and OU3 are discussed below.

OU1 Background and History

Operable Unit 1 (OU1) consists of the Yak Tunnel and Water Treatment Plant. The Yak Tunnel and Yak Tunnel Water Treatment Plant are located to the southeast of the City of Leadville. A map of OU1 can be found in the docket at www.regulations.gov under Docket ID no. EPA-HQ-SFUND-1983-0002. The Yak Tunnel was constructed to dewater mines and to facilitate mineral exploration and development. The tunnel was driven in 1895, as an extension of the Silver Cord Tunnel, to drain the Iron Hill mines. The Yak Tunnel was extended several times, with the last extension occurring in 1923. The Yak Tunnel extends underground approximately 3-1/2 to 4 miles into Iron Hill and Breece Hill. The tunnel has several major laterals and drifts that extend from the tunnel into various mine workings, such as the Horseshoe, the Rubie, the North Mike, the South Mike, the Ibex No. 4, the Little Winnie, the Resurrection No. 1, the Fortune, the Resurrection No. 2, and the Dolly B. The EPA estimated that 60,000 feet of tunnels and major laterals and 55 to 74 million cubic feet of void space are associated with the tunnel mining activities. At the time of the ROD in March 1988, studies indicated that a combined total of 210 tons per year of cadmium, lead, copper, manganese, iron, and zinc were discharged from the Yak Tunnel into California Gulch, which drains into the Arkansas River. Surface

water contamination is the major impact of the Yak Tunnel discharge. Shallow alluvial ground water and stream sediment may have been impacted by historic releases from the Yak Tunnel.

OU1 Remedial Investigations and Feasibility Study (RI/FS)

The State, the EPA and certain Potentially Responsible Parties (PRPs) conducted various studies and investigations to evaluate the nature and extent of contamination generally at the Site. Remedial Investigations (RIs) began in 1986 within the Site, including mine waste rock piles, tailing disposal areas, surface water and aquatics, groundwater, smelter sites, residential/populated area soils, slag piles, and terrestrial studies. The Yak Tunnel/California Gulch Remedial Investigation (1986 RI) evaluated the human health and environmental impacts due to historic mining activities.

In May 1987, the Phase I Remedial Investigation (1987 Phase I RI) confirmed that the Yak Tunnel is a significant source of metals contamination. Results of this study indicated that 75 to 80 percent of the cadmium, manganese, and zinc detected at the confluence of California Gulch with the Arkansas River originates from the Yak Tunnel. Historical information along with data collected during the 1987 Phase I RI indicated that the Yak Tunnel discharge had a significant detrimental impact on the aquatic environment at the site. In addition, the Yak Tunnel discharge presented a potential public health risk based on exposure to affected surface and groundwater at the California Gulch Site.

The EPA released the Yak Tunnel Feasibility Study (FS) in June 1987 and a proposed plan for the Yak Tunnel in August 1987.

OU1 Selected Remedy

The EPA issued the Record of Decision (ROD) for OU1 (1988 OU1 ROD) on March 29, 1988. The remedy chosen in the 1988 OU1 ROD was modified in an Amended ROD (AROD) signed on March 23, 1989 (1989 OU1 AROD) and, further, modified in an ESD signed on October 22, 1991 (1991 OU1 ESD) and an ESD signed on July 29, 2013 (2013 OU1 ESD).

The selected remedy in the 1988 OU1 ROD was narrowly focused on the discharges from the Yak Tunnel as a major source of contamination to California Gulch and the Arkansas River. Broader issues of water quality generally in California Gulch and the Arkansas River were addressed as part of remedial actions taken at other operable units. Thus, the 1988 OU1 ROD identified a single remedial action objective (RAO) of decreasing the release and threatened release of hazardous substances, pollutants and contaminants from the Yak Tunnel into California Gulch.

The original remedy selected in the 1988 OU1 ROD consisted of the following remedial components: 1) Construction of surge ponds to capture drainage from the tunnel and to minimize the impact of surges on California Gulch and the Arkansas River; 2) Installation of an interim water treatment system to treat water from the Yak Tunnel before discharge in California Gulch; 3) Sealing of shafts, drill holes and fractured rock and diversion of surface water from tunnel recharge areas to reduce the amount of water entering the Yak Tunnel system; 4) Grouting of fractured rock, caved-in areas and drill holes to prevent seepage of contaminated water to the land surface; 5) Installation of a pumping system to control water levels behind the portal plug. The pumped water would be routed to the interim treatment system; 6) Construction of a minimum of three concrete plugs in the Yak Tunnel to seal off the major flow route for groundwater movement; 7) Establishment of a surface and groundwater monitoring system to detect leakage, seeps or migration of contaminated groundwater, which may result from installation of the tunnel plugs; 8) Development and implementation, as necessary, of a contingency plan to address any adverse effects on surface or groundwater from tunnel plugging; and 9) Operations and maintenance of the remedy.

The 1989 OU1 AROD made the following changes in the remedy: 1) Installation of a permanent water treatment system to treat contaminated groundwater from the Yak Tunnel before discharge in California Gulch, as opposed to the interim treatment facility originally proposed; 2) Construction of a

surge pond or ponds to capture drainage from the tunnel and to minimize surges on California Gulch. The original remedy called for multiple surge ponds and did not consider the use of a single pond; 3) Reduction of seepage and recharge was made optional. Grouting of fractured rock, cave-ins and drill holes was removed as part of the remedy; and 4) The portal plug was modified to be a flow-through plug as opposed to a solid plug.

The 1991 OU1 ESD made the following changes in the remedy: 1) Construction of a single surge pond as a permanent part of the remedy; 2) Construction of a flow-control bulkhead within the tunnel to prevent surges. Two of three originally planned plugs were removed from the remedy; 3) Identification of groundwater flow direction and potential gradient reversal as additional element of the monitoring plan. The monitoring system was proposed to include a minimum of seven groundwater monitoring wells as opposed to a minimum of 23 wells proposed in the 1989 AROD; 4) Placement of six or more weirs, or other flow measuring devices, at key locations in the Yak Tunnel. The weir locations were selected during an initial inspection of the tunnel; 5) Periodic inspection of the Yak Tunnel. Qualified mining crews will enter the tunnel annually to inspect and maintain weirs and other structures in the tunnel. Crews will also enter the tunnel to determine the cause of unexpected increases or decreased in flow within the Yak Tunnel; and 5) Development and implementation, as necessary, of a contingency plan to address any adverse effects on surface or groundwater resulting from tunnel blockage. The implementation would be based upon decrease in flow from Yak Tunnel, rise in water levels in monitoring wells located near mine workings, indication of gradient reversal, or degradation of water quality.

Because the selected remedy in the 1988 OU1 ROD left wastes in place but did not include institutional controls (ICs), a second ESD was signed on July 29, 2013 to include ICs. The objectives of ICs for OU1 are as follows: 1) Reduce or control human exposure to contaminants of concern; and 2)

Maintain the integrity of and prevent disturbances to engineered features or structures established as part of the current remedy or future remedies. The properties that comprise most of OU1 are owned by Resurrection/Newmont.

OU1 Cleanup Standards

The OU1 remedy was the first source control remedy at the Site that addressed the Yak Tunnel discharge as the largest single source of contamination to surface water and groundwater but did not contain numeric cleanup standards for those media. Numeric cleanup standards for site-wide surface water and groundwater contamination were established in the OU12 Record of Decision.

OU1 Response Actions

The EPA issued a Unilateral Administrative Order (UAO) to ASARCO Incorporated, Newmont Mining Corporation, Res-ASARCO Joint Venture and Resurrection Mining Company on March 29, 1989 ordering these parties to perform the remedial design and remedial action for the Yak Tunnel. Two amendments were made to the UAO on April 30, 1993 and June 16, 1993. The UAO was replaced and terminated in a 2008 Consent Decree settlement (2008 CD) by and among the United States, State of Colorado, Newmont USA Limited and Resurrection Mining Company. Under the 2008 CD, Newmont USA Limited and Resurrection Mining Company assumed responsibility for the OU1 remedy. Construction of a surge pond and permanent water treatment plant began in September 1988 and was completed in June 1991. The construction efforts included four main elements: 1) a surface water conveyance system, 2) the surge pond itself, 3) a barge transfer system and 4) installation of gravity filters. The water treatment facility to treat waters emanating from the Yak Tunnel was constructed over a two-year period and the Yak Tunnel Water Treatment Plant has been in operation since construction was completed in February 1992. The Yak Tunnel Bulkhead was constructed in 1994 to control surges of water coming from the Yak Tunnel, particularly during spring melt. The bulkhead is located

approximately 1,680 feet into the tunnel from the portal. Additional efforts were made in 1995 and 1996 to reduce metals loading into the Arkansas River from ephemeral tributaries. As part of a Consent Decree settlement with Resurrection/Newmont, Resurrection/Newmont placed environmental covenants on its properties in OU1 on July 31, 2012 and October 1, 2012 that meets the IC objectives above. All remedial components described in the 1988 OU1 ROD and subsequent 1989 OU1 AROD, 1991 OU1 ESD, and the 2013 OU1 ESD have been implemented.

OU1 Operation and Maintenance

The potentially responsible parties' (PRPs) operations and maintenance (O&M) responsibilities were first defined under the UAO and then updated in the 2008 CD. In accordance with the terms of the 2008 CD, the Routine Monitoring Plan (RMP), Contingency Plan (CP) and the OU1 Work Plan (Work Plan) govern the long-term implementation of the selected remedy for the OU1. The OU1 Work Plan, CP and the RMP are appendices to the 2008 CD.

Routine O&M includes repairing grouted areas of structures due to corrosion, settlement or other factors; occasional repair or replacement of monitor well pumps and surface water monitoring equipment; repair of access roads; routine repair or replacement of pumps, motors, mixers, piping and tankage; and inspections. The treatment plant operates under requirements established in the OU1 Work Plan, and submits monthly and annual reports to EPA. Resurrection/Newmont summarizes monitoring data and data evaluation required by the OU1 Routine Monitoring Plan in the Annual Monitoring Reports, Yak Tunnel System for the Yak Tunnel Operable Unit, Leadville, CO. Current reports and associated data are available by contacting EPA Region 8.

In regards to ICs, environmental covenants for Resurrection/Newmont's properties within OU1 were recorded with the Lake County Clerk and Recorder on July 31, 2012 and October 10, 2012. The environmental covenants provide the following Use Restrictions: 1) No Residential Use, Day Care

Centers or Schools, Parks or Open Space that are designed or intended to provide play or recreation areas for children, 2) Restrictions on using untreated groundwater from wells, and 3) Restrictions on uses or activities that would disturb/interfere or have the potential to disturb/interfere with the protectiveness of the remedy and remedial components. All of OU1 is zoned Industrial Mining by Lake County, which serves to limit future changes of land use without County approval and Lake County has established a protocol to notify the EPA and the CDPHE of any proposed changes.

OU3 Background and History

D&RGW Slag Piles/Railroad Easement/Railroad Yard (OU3) included three slag piles (Arkansas Valley (AV), La Plata, and Harrison Street), approximately 12 acres at Harrison Avenue and Monroe Street which contained the Harrison Street slag pile, an easement that runs diagonally through the City of Leadville, and a portion of the rail yard known as Poverty Flats. The Denver & Rio Grande Western Railroad Company (D&RGW) owned these slag piles, property, easement and rail yard when OU3 was designated in 1994. A map of OU3 can be found in the docket at www.regulations.gov under Docket ID no. EPA-HQ-SFUND-1983-0002.

In 1961, D&RGW purchased the AV Slag Pile from ASARCO Incorporated for use as railroad ballast. D&RGW purchased the La Plata Slag Pile from the Leadville Sanitation District in 1970. Additionally, D&RGW purchased the Harrison Street Slag Pile and Harrison Avenue property from NL Industries in 1983.

The AV Slag Pile covers approximately 40 acres just west of Stringtown. The pile generally consists of slag produced by the AV smelter that operated from 1882 to 1960. Based on aerial photography, the pile volume in the late 1950s was approximately 1.2 million cubic yards, whereas in

1998 approximately 422,000 cubic yards of slag remained, of which, approximately 190,000 cubic yards is stockpiled fine slag.

The La Plata Slag Pile, located west of the City limits of Leadville on Elm Street, has a volume estimated at 105,000 cubic yards. Bimetallic Smelting Company leased the La Plata Smelter Works in OU3 from 1892 to 1900 for pyritic smelting of low-grade ores.

The Harrison Reduction Works was located near the northeast corner of Harrison Avenue and Elm Street, in a residential area. The Harrison Street Slag Pile ranged from 20 to 50 feet in height and covered an area of approximately 3 acres. The Harrison Street Slag Pile was removed to original grade and relocated to the AV Slag Pile in March 1998.

Once a hotbed of transportation activities mostly related to mining, the Poverty Flats rail yard, located between 12th Street, Highway 24, 17th Street and County Road 8, is now vacant. The portion of the Poverty Flats rail yard formerly owned by D&RGW is located near the north end of the City of Leadville, encompasses an area of roughly 43 acres, and is crossed by abandoned rail lines and access roads. Slag, which was used in the rail yard as ballast and as a road base to provide support for heavy vehicle traffic, was also deposited around the loading dock due to spillage during transportation activities.

The rail easement includes the portion of railroad track that runs diagonally through Leadville and consists of approximately 25 feet on either side of the track centerline. Slag was used as a road base to provide support for heavy vehicle traffic. Slag was also deposited as spillage from passing rail cars.

D&RGW identified a small volume of fine slag in the Poverty Flats rail yard. D&RGW prepared a plan, which addressed removal of the fine slag from this area to the AV Smelter Slag Pile. As a result of the Union Pacific Railroad Company (UPRR) purchase of the Southern Pacific Transportation Company (surviving corporation from an earlier merger of D&RGW and Southern Pacific Railroad),

UPRR took ownership of all D&RGW property at the Site in 1996 and assumed D&RGW's responsibilities under the 1993 D&RGW CD.

During the summer and fall of 1997, UPRR removed 1,264 cubic yards of slag, including fine slag, from the rail yard and placed it onto the AV Slag Pile. As a result, soils were exposed containing elevated concentrations of lead. Soils samples, taken before and after removal of the slag, showed levels of lead in soil that exceed the Site-wide residential action level of 3500 mg/kg lead, thus lead in the soils on this property may create the potential for unacceptable human health risks should the property be developed for residential use. This vacant property is zoned Business by Lake County. However, institutional controls are in place to protect human health in the event of future residential development.

As part of their ballast operations, UPRR relocated approximately 104,000 cubic yards of slag to the AV Slag Pile in March 1998, which brought the Harrison Street Slag Pile to grade. Soils samples taken after removal of the slag showed levels of lead in soils, both under where the slag pile was located and otherwise on the Harrison Avenue property, that exceed the residential action level for lead in soils of 3500 mg/kg. Thus, the lead in the soils on the Harrison Avenue property may create the potential for unacceptable human health risks should the property be developed for residential use. To date, the land remains vacant. Sections along the highway are zoned Commercial, and the remaining sections are zoned Transitional Commercial by the City of Leadville. However, institutional controls are in place to protect human health in the event of future residential development.

In July 1998, UPRR submitted a Work Plan for the Consolidation of Fine Slag at the Railroad Easement Near McWethy Drive to 12th Street, Leadville, Colorado. The work plan provided for the easement to be converted into a segment of the Mineral Belt Trail. Consistent with the plan, fine slag from the rail easement was used as base material on the Mineral Belt Trail. More specifically, the fine slag was consolidated and covered with a compacted gravel sub-base of six inches and then two one-

inch layers of asphalt to encapsulate it. This resource utilization was consistent with the contingency under the 1998 OU3 ROD. The completion of the consolidation work was approved in September 1998. The conversion of the railroad easement to the Mineral Belt Trail was completed with the installation of a sub-base, culverts, asphalt, signs, centerline striping, and re-vegetation. In accordance with a 1998 Memorandum of Understanding between EPA, UPRR, and Lake County, Lake County completed these projects, and UPRR provided funding for the sub-base, culverts, and asphalt in 2000. Ownership of the easement has been transferred to Lake County via quitclaim deed.

OU3 Remedial Investigations and Feasibility Study (RI/FS)

The State, the EPA and certain Potentially Responsible Parties (PRPs) have conducted various studies and investigations to evaluate the nature and extent of contamination generally at the Site, and specifically within OU3. Remedial Investigations (RIs) began in 1986 within the Site, including mine waste rock piles, tailing disposal areas, surface water and aquatics, groundwater, smelter sites, residential/populated area soils, slag piles, and terrestrial studies.

Concurrent with the various investigations and studies, risk assessments were conducted at the California Gulch Superfund Site. Some included the Preliminary Baseline Risk Assessment (Preliminary BRA), and the Final Baseline Human Health Risk Assessments (Final BRA): Part A, Part B, and Part C. For human health risk issues at OU3, the Preliminary BRA and the Final BRA Part C, Evaluation of Worker Scenario and Evaluation of Recreational Scenarios, were most pertinent. The Preliminary BRA indicated that lead and arsenic are responsible for the majority of human health risks at the Site. Therefore, arsenic and lead were used as indicator contaminants for risk in the Final BRA.

EPA and D&RGW entered into an Administrative Order on Consent (1991 D&RGW AOC) on December 3, 1991. The 1991 D&RGW AOC required D&RGW to perform remedial investigations of major lead slag piles and one zinc slag pile within the Site. In 1992, D&RGW completed a remedial

investigation (1992 OU3 Slag RI) of the major lead slag piles and the zinc slag pile within the Site. Slag was found to have elevated levels of zinc, lead, arsenic and cadmium along with a low acid-generating potential, and a neutral to basic pH. Fine slag, which is less than 3/8 of an inch, was found to have elevated lead levels. The fine fraction of slag was the only part of the slag that may present an unacceptable risk because fine slag poses an inhalation hazard.

EPA and D&RGW entered into a Consent Decree on September 15, 1993 (1993 D&RGW CD) for the completion of investigation, feasibility studies, and remediation activities to be performed for OU3. The 1993 D&RGW CD stated EPA's concerns regarding the fine fraction of the stockpiled slag at the AV Smelter site and the potential for particulate release during ballast operations as a potential human health exposure pathway. The 1993 D&RGW CD required D&RGW to perform a feasibility study for stockpiled fine slag and to submit an operations plan before initiating any ballast operations.

In 1993, the EPA conducted a Screening Feasibility Study (1993 SFS) to initiate the overall CERCLA FS process at the California Gulch Site. The purpose of the SFS was to develop general response actions and identify an appropriate range of alternatives applicable to the various contaminant sources to be considered during feasibility studies for the California Gulch Site. The 1993 SFS for Remedial Alternatives examined several remediation alternatives for slag located at the Site based on specific criteria, such as relative cost, implementability, and effectiveness. The three remedial alternatives for slag retained for further evaluation were: no action, institutional controls, and resource utilization. The La Plata and Harrison Street Slag piles did not contain fine slag. Therefore, no further action was necessary. Because the AV Smelter pile contained fine slag, more investigation was required.

In July of 1995, D&RGW submitted a ballast operations plan to EPA. Following EPA's approval of the plan, ballast operations commenced in August 1995 but ceased soon thereafter for lack

of a profitable market for the slag. Ballast operations involve the sorting of larger slag so that the size fraction of greater than 3/8 inch and less than 2 ½ inches is produced for road ballast. The undersized fraction (ie., less than 3/8 inch), or sorted fine slag, that is produced by the sorting process is stockpiled along with the previously sorted fine slag at the Arkansas Valley pile.

D&RGW's 1996 Final Stockpiled Fine Slag Feasibility Study (1996 OU3 FS) focused on the AV Smelter Slag Pile's existing fine slag subpile and fine slag potentially generated from future ballast production. Based upon the 1993 SFS and 1993 D&RGW CD, the remedial action objective for the stockpiled fine slag was to: prevent leaching of metals of concern in concentrations that would have an adverse impact on soils, surface or ground water near the slag piles. The 1996 OU3 FS provided a detailed analysis of the three retained remediation alternatives (no action, institutional controls, and resource utilization) from the 1993 SFS as applied to the stockpiled fine slag. The result of the 1996 OU3 FS for the stockpiled fine slag was a Proposed Plan with a No Action Alternative for the stockpiled fine slag subpile of the AV Smelter Slag Pile. In September 1996, the Proposed Plan was issued with a preferred alternative of "No Action," with a contingency for future utilization of the slag.

OU3 Selected Remedy

The EPA issued the Stockpiled Fine Slag – Arkansas Valley Smelter Slag Pile ROD for OU3 on May 6, 1998 (1998 OU3 ROD). Based on consideration of CERCLA requirements, detailed analyses of alternatives, and public comments, the EPA determined that a No Action alternative was the appropriate remedy. The No Action alternative leaves the stockpiled fine slag in its existing condition with no control or cleanup planned. The No Action alternative includes a provision, denoted as a contingency, for future utilization of the slag, if it is encapsulated prior to its use or reuse. The 1998 OU3 ROD also provides a provision to use the slag in the future if regional market demand exists for the material as a component in construction materials.

The 1998 OU3 ROD did not require maintenance of the fine slag piles. Any future use of the slag would require encapsulation prior to reuse. Encapsulation can include the use of fine slag in concrete or asphalt aggregate, as a road base, or as backfill (so long as the slag is chemically bound or physically separated from an exposure by a barrier consisting of a different material).

Sampling in the Poverty Flats rail yard property and the Harrison Avenue property shows levels of lead in soils above levels that would allow for unlimited use and unrestricted exposure, i.e., above the residential action level established for OU9, Residential Populated Areas of the Site. In addition, the Mineral Belt Trail, which was constructed on the former railroad easement, acts as a cap for fine slag and residual slag remains in other parts of OU3. Thus, the August 6, 2014 ESD (2014 OU3 ESD) addresses the need for ICs, and documents the decision to require ICs for OU3. In addition, the use of the term “contingency” for fine slag utilization in the 1998 OU3 ROD is clarified in the 2014 OU3 ESD. Fine slag can be used for future commercial purposes by following the requirements set out in the 1998 OU3 ROD.

OU3 Cleanup Standards

As the final determination in the 1998 OU3 ROD was No Action ROD, no cleanup standards were identified for fine slag in the record of decision. The OU12 remedy addresses site-wide surface water and groundwater contamination.

OU3 Response Actions

No response actions were taken pursuant to the No Action ROD. The ICs established by the City and County ordinances were response actions that were incorporated into the OU3 remedy by the ESD. Lake County, on March 3, 2009, and the City of Leadville, on May 7, 2013, implemented ICs in the form of local ordinances, amending the Land Development Codes and adopting regulations that protect both engineered and non-engineered remedies at OU3. A best management practice handout is provided

to all applicants applying for a building permit within OU3. In addition, any disruptions of engineered or non-engineered remedies, and/or excavation of more than 10 cubic yards of soil off-site within OU3 require written approval from the CDPHE.

OU3 Operation and Maintenance

Because the 1998 OU3 ROD was a No Action ROD, no maintenance was required.

Five-Year Review

The remedies at the entire Site, including OU1 and OU3 require ongoing five-year reviews in accordance with CERCLA Section 121(c) and Section 300.430(f)(4)(ii) of the NCP. The next five-year review for the California Gulch Site is planned for 2017.

In the 2012 five-year review dated September 27, 2012 for the Site, the OU1 remedy was determined to be protective in the short-term. There were concerns regarding continued long-term protectiveness because the requirement of ICs was not documented in a decision document even though ICs had already been implemented by the PRP and Lake County. Environmental covenants for Resurrection/Newmont's properties within OU1 were recorded with the Lake County Clerk and Recorder on July 31, 2012 and October 10, 2012. An ESD dated July 29, 2013 (2013 OU1 ESD) resolved this concern.

In the 2012 five-year review for the Site, the OU3 remedies were determined to be protective in the short-term. The five-year review, recommended a review to determine whether additional response actions were needed at OU3 to insure long-term protectiveness. The review determined that ICs were needed to insure long-term protectiveness. The 2013 OU3 ESD addresses the need for ICs because some soils and residual slag remained above the residential action level, and documents the decision to require ICs. Ordinances adopted by the City and County met the IC objectives set out in the ESD

Pursuant to CERCLA section 121(c) and the NCP, EPA will conduct the next five-year review by September 27, 2017 to ensure the continued protectiveness of remedial actions where hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

Community Involvement

Public participation activities have been satisfied as required in CERCLA Section 113(k), 42 U.S.C. 9613(k) and CERCLA Section 117, 42 U.S.C. 9617. During the development and implementation of the remedies for these operable units, comment periods were offered for proposed plans, five-year reviews, and other public meetings. The documents that the EPA relied on for the partial deletion of OU1 and OU3 from the California Gulch Superfund Site are in the docket and are available to the public in the information repositories. A notice of availability of the Notice of Intent for Partial Deletion has been published in the Leadville Herald Democrat to satisfy public participation procedures required by 40 CFR 300.425 (e) (4).

The State, the Lake County Commissioners, the City of Leadville are supportive of the partial deletion of OU1 and OU3. The State signed a letter of concurrence on October 7, 2015.

Determination that the Criteria for Deletion have been Met

EPA has consulted with the State, Lake County Commissioners, and the City of Leadville on the proposed partial deletion of OU1 and OU3 of the California Gulch Site from the NPL prior to developing this Notice of Partial Deletion. Through the five-year reviews, EPA has also determined that the response actions taken are protective of public health or the environment and, therefore, taking of additional remedial measures is not appropriate.

The implemented remedies achieve the degree of cleanup or protection specified in: for OU1, the 1988 OU1 ROD, 1989 OU1 AROD, the 1991 OU1 ESD and 2013 OU1 ESD; and for OU3, the 1998 OU3 ROD and the 2014 OU3 ESD.

All selected removal and remedial action objectives and associated cleanup goals for OU1 and OU3 are consistent with agency policy and guidance. This partial deletion meets the completion requirements as specified in OSWER Directive 9320.2-22, Close Out Procedures for National Priority List Sites. All response activities at OU1 and OU3 of the Site are complete and the two operable units pose no unacceptable risk to human health or the environment. Therefore, EPA and CDPHE have determined that no further response is necessary at OU1 and OU3 of the Site.

V. Partial Deletion Action

The EPA, with concurrence of the State through the CDPHE has determined that all appropriate response actions under CERCLA, other than operation, maintenance, monitoring and five-year reviews, have been completed. Therefore, EPA is deleting all of OU1, Yak Tunnel/Water Treatment Plant; and OU3, D&RGW Slag Easement/Railroad Yard, of the Site.

Because EPA considers this action to be non-controversial and routine, EPA is taking it without prior publication. This action will be effective [insert date 60 days from the date of publication in the *Federal Register*] unless EPA receives adverse comments by [insert date within 30 days of this publication in the *Federal Register*]. If adverse comments are received within the 30-day public comment period, EPA will publish a timely withdrawal of this direct final notice of partial deletion before the effective date of the partial deletion and it will not take effect. EPA will prepare a response to comments and continue with the deletion process on the basis of the notice of intent to partially delete and the comments already received. There will be no additional opportunity to comment.

List of Subjects in 40 CFR Part 300

Environmental protection, Air pollution control, Chemicals, Hazardous waste, Hazardous substances, Intergovernmental relations, Penalties, Reporting and recordkeeping requirements, Superfund, Water pollution control, Water supply.

Dated: January 15, 2016.

Shaun L. McGrath
Regional Administrator
Region 8.